

**Before the
Federal Communications Commission
Washington, D.C. 20554**

Response to Request for Comments Regarding FCC Document 12-61: “Improving Spectrum Efficiency in the 4.9 GHz Band”

Submitted by Nebraska Public Power District (NPPD)

Nebraska Public Power District supports expanding eligibility for licenses in the 4.9 GHz band to Critical Infrastructure Industry (CII), including electric utilities. NPPD also supports allowing utilities primary use for fixed point-to-point and point-to-multipoint operation in this band.

Expanding eligibility to CII and allowing utility operations on a primary basis will make it more likely the goal of improving spectrum efficiency in this band will be successful.

General Comments

Nebraska Public Power District already partners with Public Safety on an equal shared basis with a State Radio System. The system is owned and operated equally between the two groups. NPPD sees the 4.9 GHz band as another great opportunity for public safety and utilities to work together in bringing efficiency and effectiveness to wireless spectrum. NPPD supports allowing the Critical Infrastructure Industry (CII) to have access to the 4.9 GHz band on a primary basis. Utilities and public safety both require Critical infrastructure to serve the public and make excellent partners for public safety for communications.

NPPD owns and operates its own telecommunications systems which include backhaul facilities on fiber and wireless. NPPD uses the system for CI including SCADA and relay operations, substation operations, voice and data for business and utility operations, interconnects with other

utilities, and for the joint public safety utility land mobile radio statewide system. The NPPD system has been designed with redundancy to ensure electrical system operations as well as the public safety radio system are fully functional at all times and under all conditions.

The ability to operate in the 4.9 GHz band on a primary basis will aid NPPD in providing rural operational areas with redundant communications and provide future rural use of LTE functionality for utility and public safety operations.

Responses to specific requests for comment:

28. NPPD supports requiring all users of the 4.9 GHz spectrum to register the technical parameters of their fixed point-to-point, point-to-multipoint, and base-to-mobile stations into a database.

- Latitude/Longitude of transmitters
- ERP
- Antenna height

35. NPPD sees formal frequency coordination of this spectrum as a critical point for users to effectively use and operate a CII system in this band. Without a formal coordination process, interference will happen and tracking down the source of interference will be challenging and time consuming. The result will be less use of the band for both public safety and utility needs. NPPD supports all users being required to go through a formal coordination process similar to what is done in the 6 GHz band now used by several entities. The coordination process will benefit both public safety and utilities as the spectrum will have a definite plan and process and let both groups use the spectrum efficiently and effectively. NPPD already has shown that

public safety and utilities can work together to build joint systems that provide the public with lower cost more spectrum efficient systems capable of supplying CII on a level basis. 40.

A comprehensive database accessible to any coordinators would be required for any type of frequency coordination. This database would need to be populated with existing users' data for both fixed and mobile uses.

43. NPPD strongly supports expanding eligibility in the 4.9 GHz band to utilities for Critical Infrastructure requirements. NPPD has witnessed first hand that utilities and public safety have similar requirements for system reliability and coverage into rural areas. Commercial service is typically not available in these rural areas. Either the cost is too high, backup power is not available at sites along the commercial path, or maintenance service is inadequate to get service back up in short SLA (Service Level Agreement) times.

46. NPPD supports licensing both fixed point-to-point and point-to-multipoint operations on a primary basis for both broadband and narrowband traffic. Due to SCADA and protective relaying traffic, NPPD would not place critical operational and public safety traffic on a secondary basis system

47. The 4.9 GHz band provides a great opportunity to be used as a backhaul partner. To do that effectively, power levels should be increased to at least 63 dBm for point-to-point and 53 dBm for point-to-multipoint to allow for reliable paths.

49. NPPD does not support mandating it for a specific use. In our work with public safety we see the same needs as utilities, multiple telecommunications options that will provide the ability to fit applications and locations into workable solutions.

54. NPPD supports moving the 4.9 GHz band into a more robust channel bandwidth to keep pace with the new applications being developed for public safety and utility operations. The wider channel bandwidth would also allow utilities and public safety to use Sonet protection schemes in addition to IP protection schemes. The additional protection of the network is important to the critical applications that operate on the systems. NPPD supports adding a 30MHz wide channel that will support OC3 capacity traffic as well as Sonet protection.

65. NPPD continues to work with public safety to help the State of Nebraska become more effective and efficient in the use of wireless spectrum. The 4.9 GHz band is another opportunity to do that. In order for public safety and utilities to meet future demands and provide customer needs this spectrum needs to work for all groups working on critical infrastructure. The changes in higher power and wider channel bandwidth along with primary operational basis will move it in the right direction.

Respectfully Submitted,

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